



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,831	07/25/2000	Steven E. Baker	98-0487.12	7340

21491 7590 04/06/2004

LANIER FORD SHAVER & PAYNE  
P O BOX 2087  
HUNTSVILLE, AL 35804

EXAMINER

FOWLKES, ANDRE R

ART UNIT	PAPER NUMBER
----------	--------------

2122

DATE MAILED: 04/06/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. **09/624,831**Applicant(s) **BAKER, STEVEN E.**

Examiner

Andre R. Fowlkes

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 2/23/04.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This action is in response to the amendment filed on 2/23/04.
2. The objection to the drawings are withdrawn in view of applicant's amendment.
3. The objection to the specification is withdrawn in view of applicant's amendment.
4. The rejections under 35 U.S.C 112 to claims 6-7 are withdrawn in view of applicant's amendment.
5. Claims 1 and 4-7 have been amended.
6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amberg et al (Amberg), U.S Patent No. 5,991,543 in view of Rickel et al. (Rickel), U.S. Patent No. 5,854,924.
7. Claims 8-12 have been canceled.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amberg et al (Amberg), U.S Patent No. 5,991,543 in view of Rickel et al. (Rickel), U.S. Patent No. 5,854,924.

As per claim 1, Amberg discloses:

- **a method of testing a process that downloads and installs customer ordered software onto a target computer** (abstract lines 1-2, "A method for installing and/or testing software for build to order computer systems").

- **dynamically generating a file that contains instructions that when executed downloads and installs customer ordered software to a target computer** (col. 3 line 66 – col. 4 line 17, "Step maker 140 is a computer system configured to sequence the software installation ... steps to be run on target system 160. To sequence the software installation ... steps, step maker 140, and more particularly, sequencing program 204 residing on step maker 140, first reads a plurality of component descriptors from descriptor file 96... sequencing program 204 retrieves a plurality of software installation ... steps corresponding to the component descriptors ... over (the) network connection 110... Having retrieved the software installation ... steps appropriate for target system 160, sequencing program 204 sequences the steps ... the output files include text files containing command lines appropriate for executing the appropriate software installation ... steps upon target system").

- **that the outcome of the execution of said file is determined** (col. 4 line 65-67, "Following the execution of the software installation and/or testing steps, results (the outcome) of the installation and tests are logged).

-**reporting said syntax errors and flow errors in a readable format** (col. 14 lines 22-26, "results from the installation and testing may be logged ... the results

preferably include whether all the steps were completed successfully and what types of failures ... were encountered”).

Amberg does not explicitly disclose generating a file **on a simulation computer, simulating the execution of said dynamically generated file in accordance with a set of evaluation rules, or analyzing the outcome of the simulation of the execution of said file to determine possible syntax errors and possible flow errors.**

However, Rickel, in an analogous environment, discloses generating a file **on a simulation computer** (col. 7 lines 46-47, “code for the intermediate file 16 is generated”, and figure 1a shows the intermediate file within the debugging system. Figure 1b and the associated text (e.g. col. 2 lines 45-47) shows the computer that is used to store and use the debugging tool), **simulating the execution of said dynamically generated file in accordance with a set of evaluation rules.** (col. 1 line 55 – col. 2 line 9, “The static debugging tool includes an analyzer for causing the computer to statically analyze (i.e. simulate) a representation of a ... file to detect the presence of program errors... without executing the ... file ... the debugging tool may include a system call and restrictions library (i.e. rules file) for providing information to the static debugging tool which is specific to particular system that the ... file is designed to be used”), and **analyzing the outcome of the simulation of the execution of said file to determine possible syntax errors and possible flow errors** (col. 2 lines 19-29, “The analyzer detects the errors and potential errors in the ... file by following all of the possible flow paths of the ... file while tracking the use of various

program parameters ... These various program parameters ... may include checking for ... inconsistent use of a certain variable type (i.e. syntax errors)").

Therefore, it would have been obvious to a person of ordinary skill in that art at the time the invention was made to incorporate the teachings of Rickel into the teachings of Amberg to generate a file on a simulation computer, simulate the execution of the dynamically generated file in accordance with a set of evaluation rules, and analyze the outcome of the simulation of the execution of said file to determine possible syntax errors and possible flow errors. The modification would have been obvious because one of ordinary skill in the art would want to save time and testing costs by generating and testing the file on the simulation computer. One of ordinary skill in the art would have also been motivated to use rules to simulate the execution of the dynamically generated file in order to safely test many aspects of the file, without having to actually execute the file. Additionally, one of ordinary skill in the art would have wanted to analyze the outcome of the simulation of the execution of said file in order to find and correct possible syntax and flow errors in order to produce a defect-free file without the risk or expense of actually executing the file to identify the errors.

As per claim 2, the rejection of claim 1 is incorporated and further Amberg discloses that **said dynamically generated file is a main batch file created from a static text file that indicates the model types of the computer a lookup file that indicates the necessary instruction required to be executed for the model type indicated, and a process that reads the model type from said static text file and**

**creates said dynamically generated file by reading said lookup file to determine command components** (col. 3 line 51 – col. 4 line 17, “To sequence the software installation ... steps, ... (a) sequencing program ... reads a plurality of component descriptors ... Component descriptors are computer readable descriptions of the components of (the) target system ... Having sequenced the steps required for target system 160, sequencing program 204 writes a series of ... files ... the output files include text files containing command lines (batch files) appropriate for executing the appropriate software installation ... steps upon target system”).

As per claim 3, the rejection of claim 2 is incorporated and further Amberg discloses that **the main batch file contains one or more labels identifying the flow of the process** (abstract line 10, “creating a file including a start of execution indication (flow label)”), **and one or more commands containing instructions to be executed and one or more calls to one or more static batch files** (col. 12 lines 57-58, “Batch file (an ASCII text file containing a sequence of commands) 870 is then run” ).

As per claim 4, the rejection of claim 3 is incorporated and further Amberg discloses that the **process of simulating said dynamically generated batch file comprises recursively simulating each of said one or more batch files to determine the outcome of the process** (A recursive routine is one that can call itself directly or be called by another subroutine, one that it itself has called, and figure 10 shows this behavior. Figure 10 shows the routine Runstep.exe (note that .bat and .exe files are both executable files) being called as a subroutine by the Runstep.bat routine that Runstep.exe called itself).

As per claim 5, Amberg discloses:

- **a first process for creating a second process that downloads and installs customer ordered software onto the target computer** (col. 3 line 51 – col. 4 line 17, “To sequence the software installation ... steps, ... (a) sequencing program ... reads a plurality of component descriptors ... Component descriptors are computer readable descriptions of the components of (the) target system ... Having sequenced the steps required for target system 160, sequencing program 204 writes a series of ... files ... the output files include text files containing command lines (batch files) appropriate for executing the appropriate software installation ... steps upon target system”).

- **a third process for recursively interpreting the outcome of the execution of the second process** (Figure 10 shows an example of a recursive routine. The routine Runstep.exe is called as a subroutine by the Runstep.bat routine that Runstep.exe previously called).

- **one or more output files that contain information relating to the interpretation of the second process** (col. 14 lines 22-26, “results from the installation and testing may be logged ... the results preferably include whether all the steps were completed successfully and what types of failures ... were encountered”).

Amberg doesn't explicitly disclose **a simulation computer comprising an environment that mimics a target computer**.

However, Rickel, in an analogous environment, discloses **a simulation computer comprising an environment that mimics a target computer**. (col. 2 lines



5-10, "the debugging tool (i.e. simulator) may include a system call and restriction library file for providing information to the static debugging tool which is specific to a particular (target computer) system that the ... file is designed to be used").

Therefore, it would have been obvious to a person of ordinary skill in that art at the time the invention was made to incorporate the teachings of Rickel into the system of Amberg to simulate the file on a simulation computer comprising an environment that mimics the target computer. The modification would have been obvious because one of ordinary skill in the art would be motivated to simulate the file to learn the results of the execution of the file, inexpensively on a simulation computer, without the expense of actually executing the file (Rickel, col. 1 lines 15-31).

As per claim 6, the rejection of claim 5 is incorporated and further Amberg discloses that the **first process reads a electronic traveler to determine the model of the target computer , looks up in the master token list the model of the target computer and creates from the information in the master token list a second process that is an executable main batch file that downloads and installs customer ordered computer software onto the target computer** (col. 3 line 51 – col. 4 line 17, "To sequence the software installation ... steps, ... (a) sequencing program (first process) ... reads a plurality of component descriptors (electronic traveler) ... Component descriptors are computer readable descriptions of the components of (the) target system ... Having read the ... component descriptors, sequencing program **204** retrieves ... software installation ... steps corresponding to

the component descriptors from the database (master token list) ... Having sequenced the steps required for target system 160, sequencing program 204 writes a series of ... files ... the output files include text files containing command lines (executable batch files) appropriate for executing the appropriate software installation ... steps upon target (computer) system”).

As per claim 7, the rejection of claim 6 is incorporated and further Amberg discloses that **said batch file contains labels, commands, and sub batch file calls** (abstract line 10, “creating a file including a start of execution indication (flow label)”, and col. 12 lines 57-58, “Batch file (an ASCII text file containing a sequence of commands) 870 is then run”).

Amberg doesn’t explicitly disclose that **said third process interpretively tracks said labels, simulates each of said commands and recursively evaluates each of said sub batch files until the end of the main batch file is reached by said third process.**

However, Rickel, in an analogous environment, discloses:

- that a **process interpretively tracks said labels** (abstract lines 9 – 11, “the analyzer detects the errors... by following all of the possible flow paths”, and the flow paths are labeled, col. 4 lines 62-63, “file 16 includes information (labels) identifying the function flow paths”).
- **simulates each of said commands** (col. 2 lines 30 – 32, “the static debugging tool symbolically executes ... (the) file”).

**- and recursively evaluated each of said sub batch files until the end of the main batch file is reached** (col. 2 lines 16 - 21, "the (sub batch file) calls within the ... file (are represented symbolically) ... the analyzer detects the errors ... (in the) file by following all of the possible flow paths (recursive as well as iterative) of the ... file").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Rickel into the teachings of Amberg to have a system wherein the main batch file contains labels, commands, and sub batch file calls, and a third process that interpretively tracks the labels, simulates each of the commands and recursively evaluates each of the sub batch files. The modification would have been obvious because one of ordinary skill in the art would be motivated to have robust method of detecting errors in software capable of using the labels in the software to produce detailed error reports.

### ***Response to Arguments***

10. Applicant's arguments with respect to claim 1 have been fully considered but they are not persuasive.

*In the remarks, the applicant has argued substantially that:*

1) With respect to claim 1, the cited references do not suggest or motivate combining the software and hardware testing system of Amberg et al., with the static debugging and simulation tool of Rickel et al.

*Examiner's response:*

1) Amberg clearly states that the goal of his invention is to "efficiently produce a useful, reliable computer system which may be delivered ... free from errors and ready to run" (see Amberg, col. 1 lines 40-43), and it is well known, to those skilled in the art, that simulating a software routine is an efficient way to test software. Therefore, one would be motivated by the teachings of Amberg, to combine the systems of Amberg and Rickel, in order to simulate the execution of a software routine in order to efficiently test the execution of the software routine.

11. Applicant's arguments with respect to claim 5 have been considered but are moot in view of the new grounds of rejection.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre R. Fowlkes whose telephone number is (703)305-8889. The examiner can normally be reached on Monday - Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (703)305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARF

  
**WEI Y. ZHEN**  
**PRIMARY PATENT EXAMINER**